CHAPTER 1

CHAPTER 1

Overview of U.S. Livestock, Poultry, and Aquaculture Production in 2005

Available Statistics

The National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA) collects and publishes official statistics for the U.S. livestock, poultry, and aquaculture populations. These statistics are based on the Census of Agriculture conducted every 5 years (e.g., 1997 and 2002) and surveys conducted monthly, quarterly, or annually as determined by the particular commodity. Frequency of surveys and sample sizes by commodity are shown in appendix 1 (table A1.1).

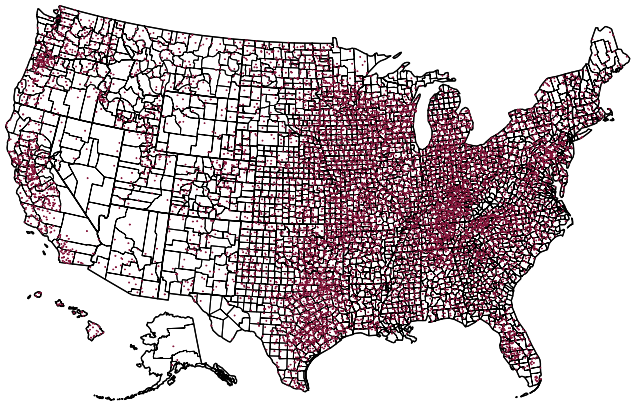
The Census of Agriculture, which is a complete enumeration of the entire agricultural segment of the economy, is the only source of detailed, county-level data of all farms and ranches in all 50 States selling or intending to sell agricultural products worth $1,000 or more in a year. The most recent Census data were collected for 2002 and published in spring 2004. The U.S. maps presented in this chapter are based on the 2002 Census of Agriculture, which provides animal inventory levels as of December 31, 2002.

In NASS' ongoing sample survey and estimation programs, data are collected and estimates are published within the same month to provide users with the most up-to-date and timely information—even in the years the Census is conducted. The massive data-collecting, editing, and summarizing effort required to prepare the Census naturally results in a publication lag. Consequently, sample survey estimates and final Census reports rarely show exactly the same numbers. These ongoing sample surveys provide the most up-to-date statistics between the Census years and are themselves subject to revision when current-year estimates are made. This is why, if you compare statistics that we printed in the 2004 animal health report for 2004 with statistics published in this year's version of the report for 2004, the numbers do not always match. In fact, after each 5-year Census of Agriculture, NASS reviews all of the previous 5 years' worth of sample survey estimates, revises the figures, and publishes the results as "Final Estimates."

Number of Farms

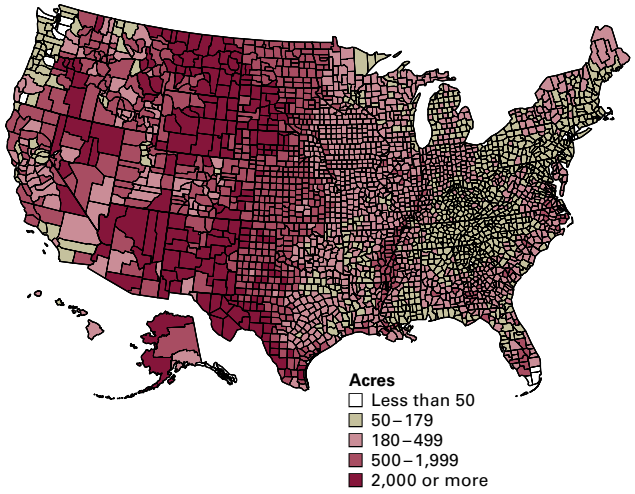
Estimates for the number of farms were based on the definition of a farm as "any establishment from which $1,000 or more of agricultural products were sold or would be normally sold during the year." Map 1 illustrates the distribution of farms across the United States based on the 2002 Census. In general, there were fewer farms in the western half of the United States; however, western farms and ranches were generally larger than those in the eastern half of the United States, as shown in map 2. A higher percentage of land area in the Central United States was dedicated to land in farms (map 3). In 2005, there were 2.10 million farms, compared with 2.11 million in 2004. Total land in farms was 933.4 million acres in 2005, which represents a decrease from 936.3 million acres in 2004. The average farm size of 444 acres in 2005 was nearly the same as the average acreage in 2004.

MAP 1. **Number of Farms: 2002**
United States Total: 2,128,982

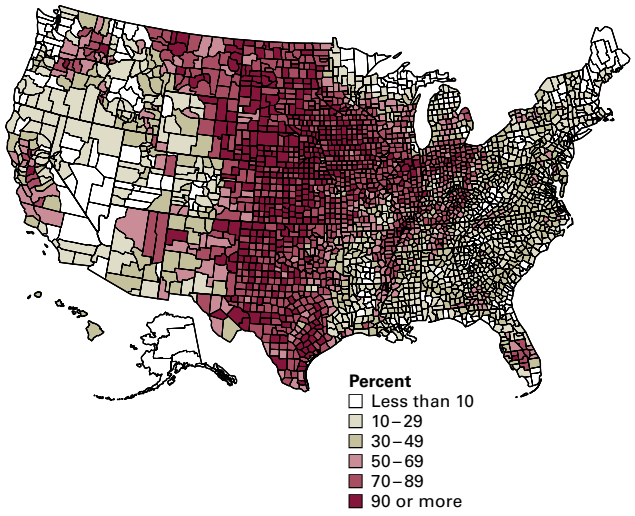


1 Dot = 200 Farms

MAP 2. **Average Size of Farms in Acres: 2002**
United States Average: 441



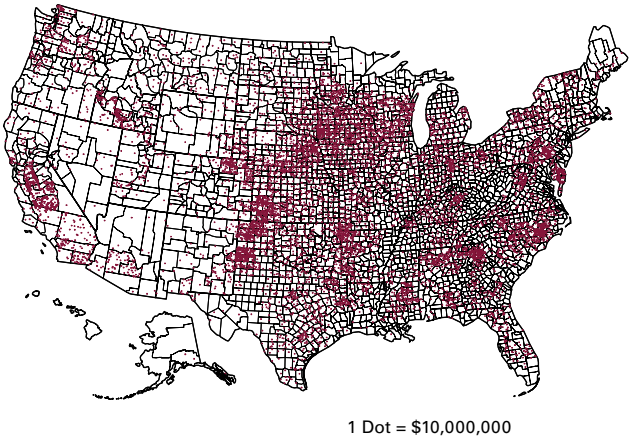
MAP 3. **Acres of Land in Farms as Percent of Land Area in Acres: 2002**
United States: 41.4 Percent



Relative Magnitude of Industries by Value of Production

As shown in map 4, the Central and Eastern States had a higher concentration in value of livestock and poultry in 2002 compared with the Western States. In recent years, the total value of production has been split nearly equally between crop and livestock (and poultry) production. In the 2002 Census of Agriculture, 52.6 percent of total value of production came from livestock and poultry. Map 5 illustrates that the coastal areas and North Central portions of the United States generally made a smaller livestock and poultry contribution to the total market value. These areas had heavy concentrations of crop, fruit, and vegetable products.

MAP 4. **Value of Livestock, Poultry, and Their Products Sold: 2002**
United States Total: $105,494,401,000



1 Dot = $10,000,000

MAP 5. **Value of Livestock, Poultry, and Their Products as Percent of Total Market Value of Agricultural Products Sold: 2002**
United States: 52.6 Percent

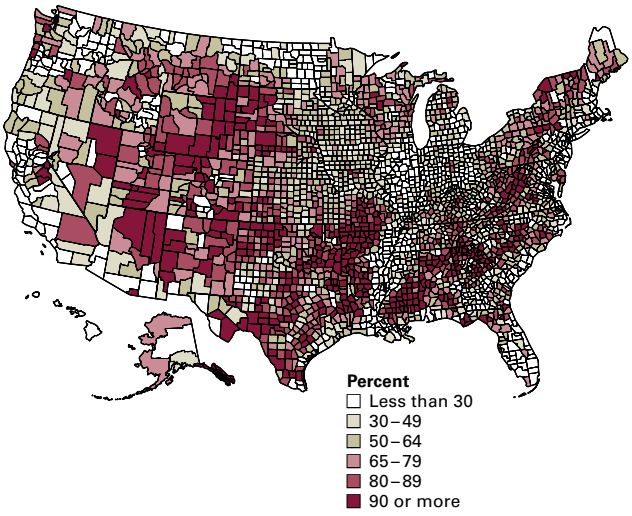
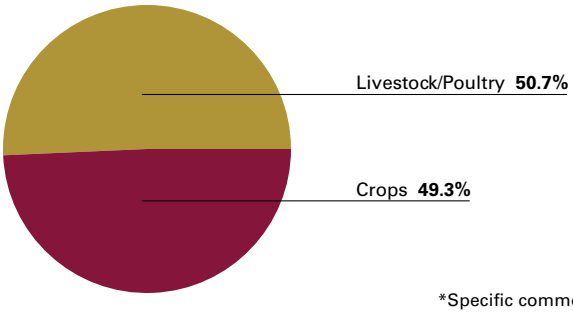


Table A1.2 in appendix 1 identifies specific major livestock, poultry, and crop commodity values for 2005. Figure 1a shows that livestock and poultry accounted for slightly more than half the total value of production. Note that poultry contributed 26.5 percent of the total value of livestock, poultry, and their products (fig. 1b).

Introduction to the Livestock, Poultry, and Aquaculture Industries

USDA defines a cattle operation as any place having one or more head of cattle on hand at any time during the year. In 2005, almost half the farms in the United States had cattle and calves, for a total of 982,510 cattle operations. Only a small number of these cattle operations (78,295) were dairies for milk production. The value of production for cattle and calves was roughly $36.7 billion. The value of milk production was about $26.9 billion. The poultry industries were the next largest commodity in the United States, with production valued at around $28.2 billion. Numbers were very similar for operations with hogs and operations with sheep (67,330 and 68,280, respectively), although the comparative values of production were dissimilar (table 1). *Note:* Detailed statistics for each commodity are provided in tables A1.2 through A1.14 in appendix 1.

FIGURE 1A: **Value of production in 2005: Crops *v.* livestock and poultry as a percentage of total.***



*Specific commodities

FIGURE 1B: **Value of production in 2005: Specific commodities as a percentage of the respective total of livestock, poultry, and their products.**

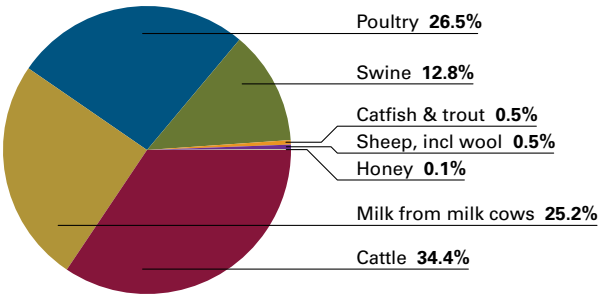


TABLE 1: **Livestock, poultry, and aquaculture statistics for 2005**

Commodity	Inventory (1,000)	Operations	Value of production ($1,000)	Appendix reference for detail
All cattle and calves	[1]97,102	982,510	36,739,445	A1.3
Milk cows	[1]9,058	78,295	[2]NA	A1.4
Beef cows	[1]33,253	770,170	NA	A1.5
Cattle on feed	[1]14,132	88,199	NA	A1.6
Hogs and pigs	[3]61,449	67,330	13,643,568	A1.7
Sheep and lambs (plus wool)	[1]6,230	68,280	482,298	A1.8
Poultry	[5]Detail	NA	28,241,351	A1.9
Equine	[4]5,317	NA	NA	A1.10
Catfish	[5]Detail	1,035	482,125	A1.11
Trout	[5]Detail	601	74,191	A1.11
Honey	[5]Detail	NA	157,795	A1.12

1 Inventory as of January 1, 2006.

2 Not available.

3 Inventory as of December 1, 2005.

4 Inventory as of January 1, 1999.

5 Detailed breakout of inventory is shown in respective appendixes.

Cattle and Calves (Beef and Dairy)

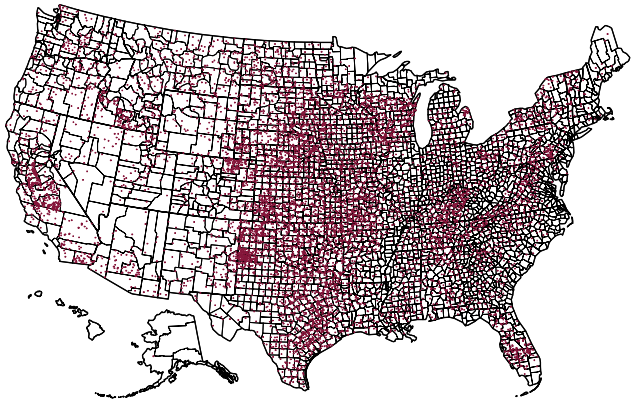
In 2002, the Nation's nearly 100 million cattle and calves (beef and dairy) were dispersed widely across the country, with a heavier concentration generally in the Central States (map 6).

Overall, the number of cattle and calves in the United States has steadily increased since 1869 via a cyclical or "wave" effect, reaching a peak in 1975 and then declining during the next 2 decades despite a slight upturn in the mid-1990s. Historically, changes in the cattle cycle occur at roughly 10-year intervals. Recently, the Nation's inventory of cattle and calves has shown an upward turn after several years of gradual decline (fig. 1c).

The number of cattle and calf operations has declined steadily during the past 15 years. A similar decline has also occurred in the number of beef operations (fig. 2). The decrease in the number of cattle and calves operations is due primarily to the decline in the number of small operations.

In 2005, small operations (1–49 head) accounted for 62.3 percent of all operations but only 11 percent of the total inventory of cattle and calves. Large operations (500 or more head) accounted for just 2.9 percent of all operations but contained 42.4 percent of the total U.S. inventory of cattle and calves (fig. 3 and also table A1.3 in appendix 1).

MAP 6. **Cattle and Calves—Inventory: 2002**
United States Total: 95,497,994



1 Dot = 10,000 Cattle and Calves

FIGURE 2: **Number of all cattle and beef cow operations, United States, 1989–2005.**

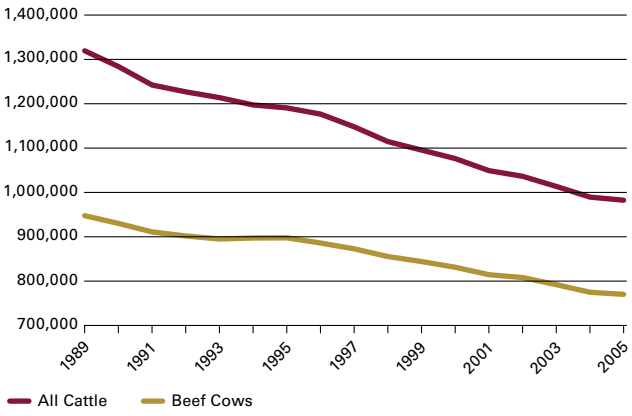


FIGURE 1C: **Cattle and calves: U.S. inventory on January 1 for selected years, 1869–2005.**

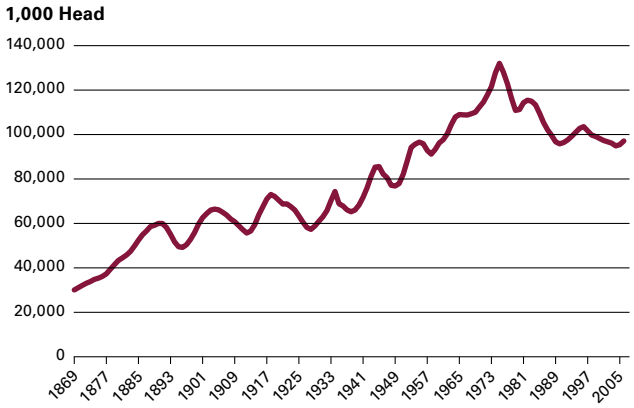
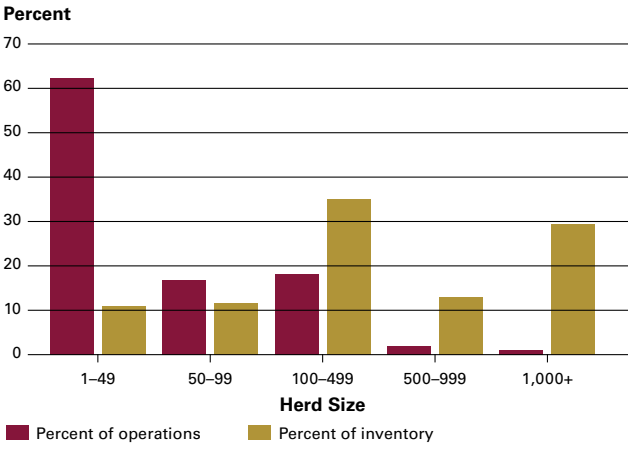


FIGURE 3: **Cattle and calves: Percent operations and inventory by herd size.**
2005 Operations = 982,510
Jan. 1, 2006, Inventory = 97.10 million



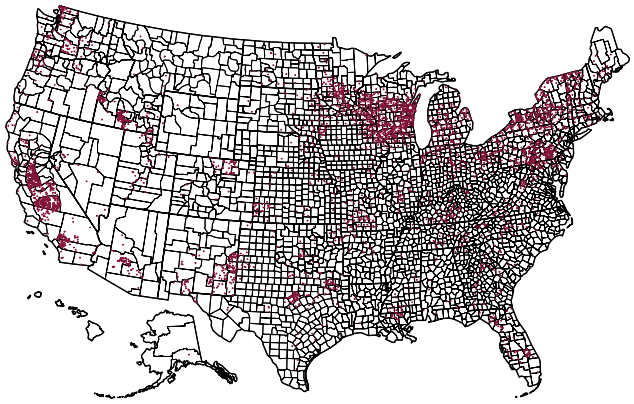
Milk Cows—Dairy

The distribution of milk cows in the United States is characterized by a concentration of milk cows in California, Wisconsin, Minnesota, and States in the Northeast (map 7).

The U.S. milk cow population has remained relatively stable with just a 4-percent decrease since January 1, 1996. In contrast, the number of operations with milk cows in 2005 was only 56 percent of the number of operations in 1995 (fig. 4). A small percentage of large operations (500 or more milk cows) had a large percentage of milk cows (fig. 5). Annual milk production per cow increased from 16,405 pounds in 1995 to 19,576 pounds in 2005—a 19-percent increase. Table A1.4 in appendix 1 documents dairy production for 2004 and 2005.

MAP 7. **Milk Cows—Inventory: 2002**

United States Total: 9,103,959



1 Dot = 2,000 Milk Cows

FIGURE 4: **Milk cows: U.S. number of operations, 1993–2005.**

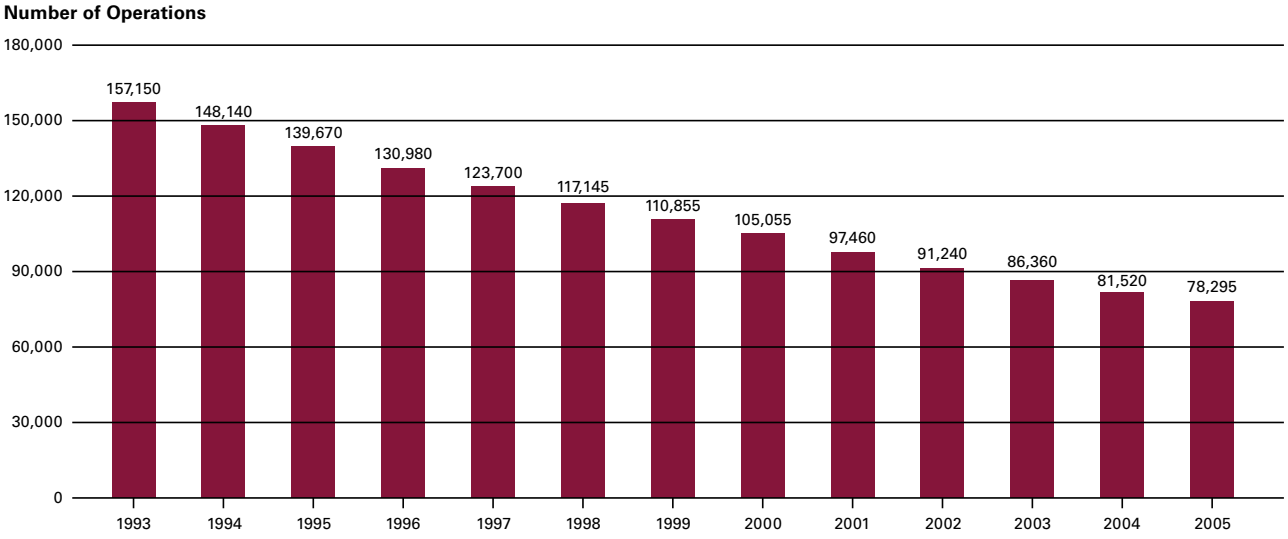
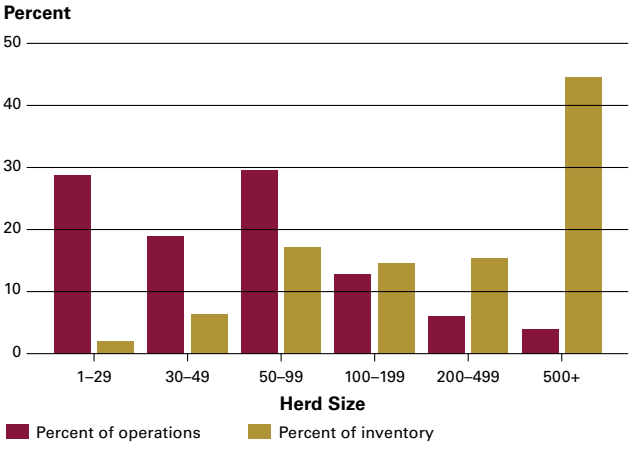


FIGURE 5: **Milk cows: Percent operations and inventory, by herd size.**

2005 Operations = 78,295

Jan. 1, 2006, Inventory = 9.06 million



Beef Cows

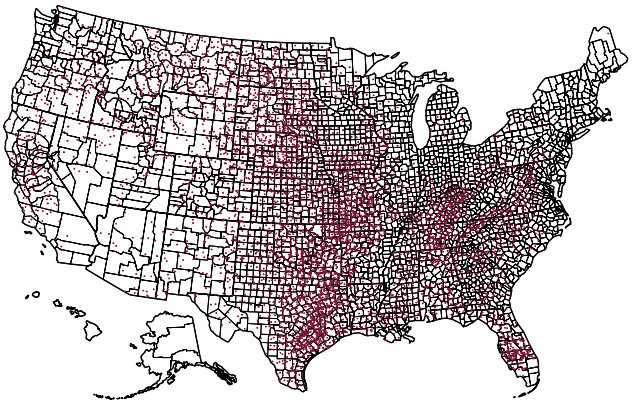
In 2002, beef cows were distributed widely across the United States. In general, however, States in the Central part of the Nation had heavier concentrations of beef cows (map 8).

The overall trend in the number of beef cows (fig. 6) follows the trend shown for the total inventory of cattle and calves (fig. 1c). Essentially, inventory levels have remained stable over the last decade (fig. 7). Beef cows accounted for 78.6 percent of the total cow inventory on January 1, 2006.

In 2005, a relatively large number of operations in the United States (770,170) had beef cows. However, the number of operations with beef cows has declined gradually since 1996 (1 to 2 percent per year, as shown in fig. 2). This decrease is most notable in small operations (1–49 head). Following a common trend seen in other livestock commodities, the population of beef cows on large operations (100 or more head) has increased and now accounts for 53.1 percent of total U.S. beef cow inventory as of January 1, 2006 (fig. 8 and table A1.5 in appendix 1). These large operations account for only 10.2 percent of all beef cow operations in the United States but have more than half the total beef cow inventory.

MAP 8. **Beef Cows—Inventory: 2002**

United States Total: 33,398,271



1 Dot = 5,000 Beef Cows

FIGURE 6: **Beef cows: U.S. inventory as of January 1 in selected years, 1920–2006.**

2006 Inventory = 33.25 million

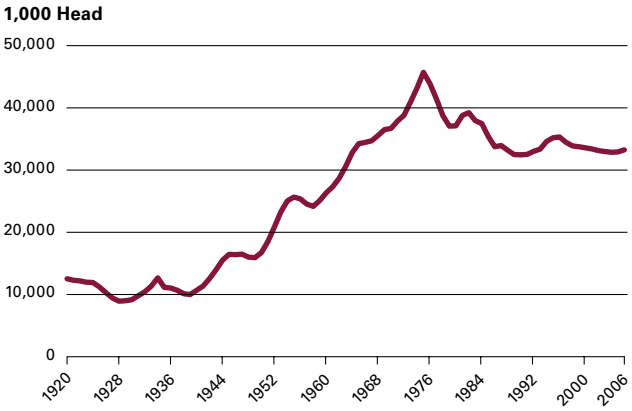


FIGURE 7: **Beef cows: U.S. inventory as of January 1 for all years, 1980–2006.**

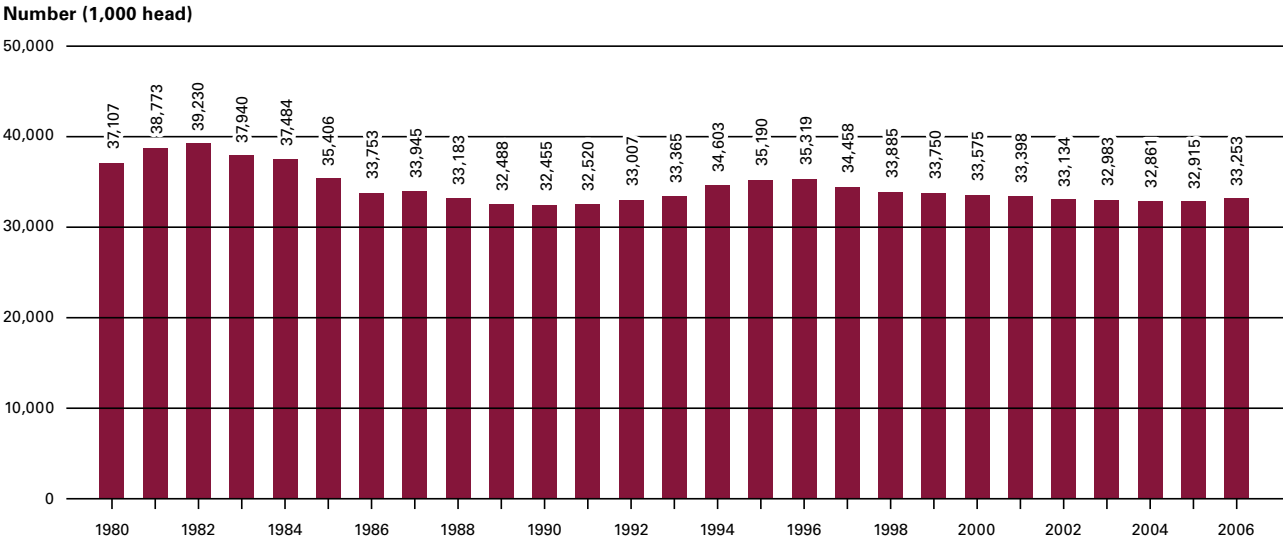
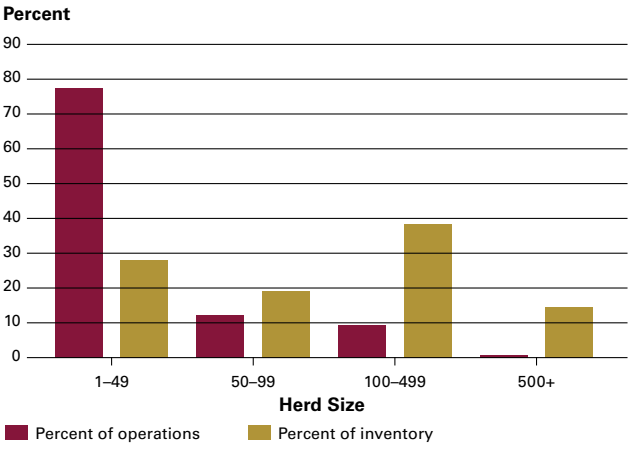


FIGURE 8: **Beef cows: Percent operations and inventory, by herd size, as of January 1, 2006.**

2005 Operations = 770,170

Jan. 1, 2006, Inventory = 33.25 million



Cattle on Feed

Cattle and calves on feed are fed a ration of grain or other concentrate in preparation for slaughter, and the majority are in feedlots in States with large grain supplies (map 9).

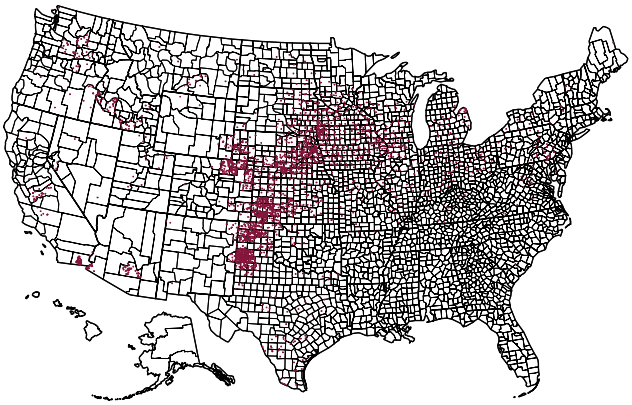
On January 1, 2006, three States (Kansas, Nebraska, and Texas) accounted for over half (57.2 percent) the inventory. Large numbers of cattle on feed are in relatively few feedlots; 126 feedlots (0.1 percent of all feedlots) accounted for 40.4 percent of the total U.S. cattle-on-feed inventory (table A1.6 in appendix 1). Inventory numbers in feedlots typically reach high points in December, January, and February and low points in August and September because of the seasonal availability of grazing resources and the predominance of spring-born calves (fig. 9a). As a result, commercial cattle slaughter typically reaches a high point in May, June, and July (fig. 9b). Steers and heifers accounted for 83.4 percent of the federally inspected slaughter in 2005. Federally inspected slaughter accounted for 98.3 percent of the 32.4 million head of commercially inspected slaughter (table A1.3 in appendix 1).

Hogs

Historically, hog production has been most common in the upper Midwest (map 10). Iowa is the largest hog-producing State and had 26.9 percent of the U.S. inventory of all hogs and pigs on December 1, 2005. During the past 2 decades, North Carolina has increased its production and is now the Nation's second-largest hog-producing State with 16 percent of the inventory. The practice of shipping pigs from production areas (e.g., North Carolina) to grower–finisher areas in the upper Midwest continued in 2005.

MAP 9. **Cattle on Feed—Inventory: 2002**

United States Total: 14,905,545



1 Dot = 5,000 Cattle

FIGURE 9A: **U.S. cattle on feed at feedlots with capacity of 1,000 or more head.**

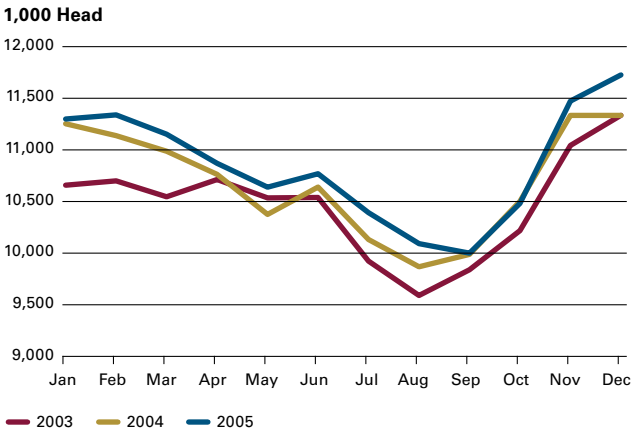
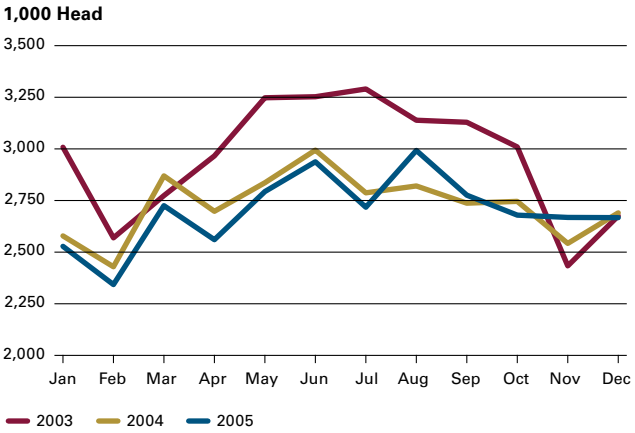
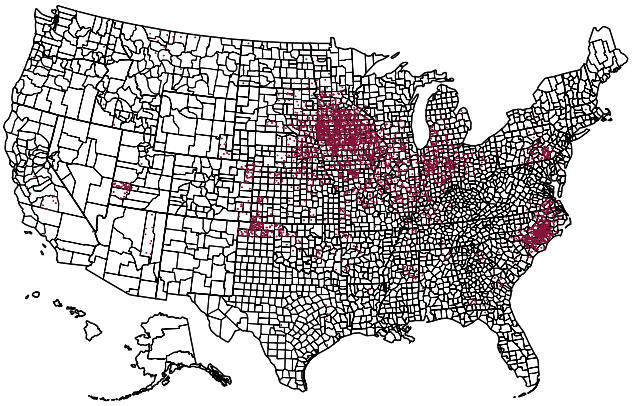


FIGURE 9B: **Cattle: U.S. commercial slaughter, by month, 2003–05.**



MAP 10. **Hogs and Pigs—Inventory: 2002**

United States Total: 60,405,103



1 Dot = 15,000 Hogs and Pigs

In the United States, inventory levels are estimated and published quarterly (December, March, June, and September). From quarter to quarter, the U.S. inventory of all hogs has fluctuated over the past decade. More change from quarter to quarter was shown in 1995–2000 compared with the quarter-to-quarter variation shown in the last 5 years. Historically, inventory numbers reach a low point on March 1 and peak on September 1 (fig. 10a). The number of hogs kept for breeding decreased by 11 percent during the last decade.

The number of hogs slaughtered commercially typically reaches a low point in May, June, or July, followed by increases until peaking in October (fig. 10b) in preparation for the holiday season. Commercial hog slaughter totaled 103.6 million head in 2005.

The number of operations with hogs declined steadily during the past decade, decreasing by 60 percent over the last 10 years (since 1995) (fig. 11). The majority of swine operations (60.3 percent) had fewer than 100 head, but these operations accounted for only 1 percent of the inventory. During the past decade, there has been a steady increase in the number of large operations (5,000 or more head), with the exception of a slight decline in 2003. Large operations (3.5 percent of all operations) now maintain more than half of the U.S. hog inventory.

In 2005, the United States had 67,330 hog operations with a production value of $13.6 billion (table A1.7 in appendix 1).

FIGURE 10A: **Hogs and pigs: U.S. inventory, by quarter, 1995–2006.**

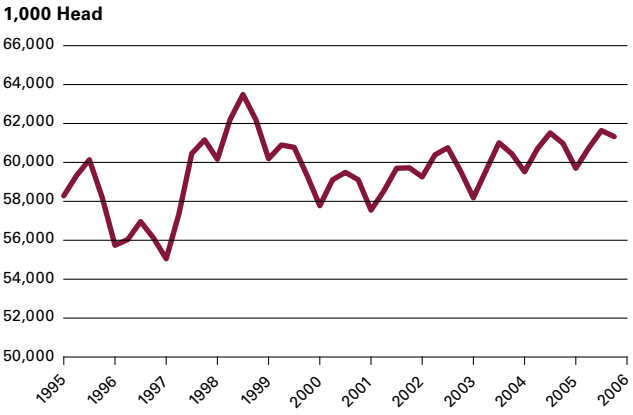


FIGURE 10B: **Hogs: U.S. commercial slaughter, by month, 2003–05.**

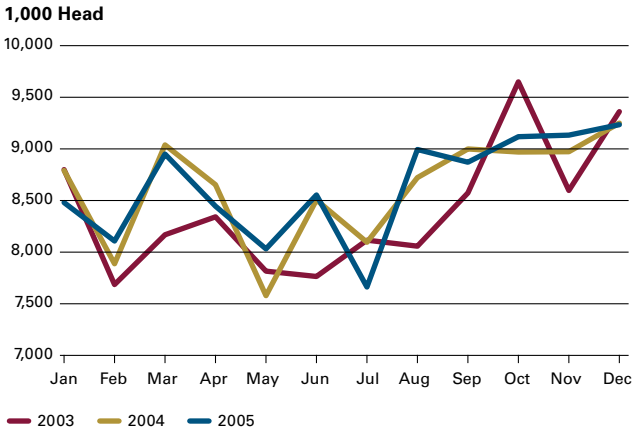
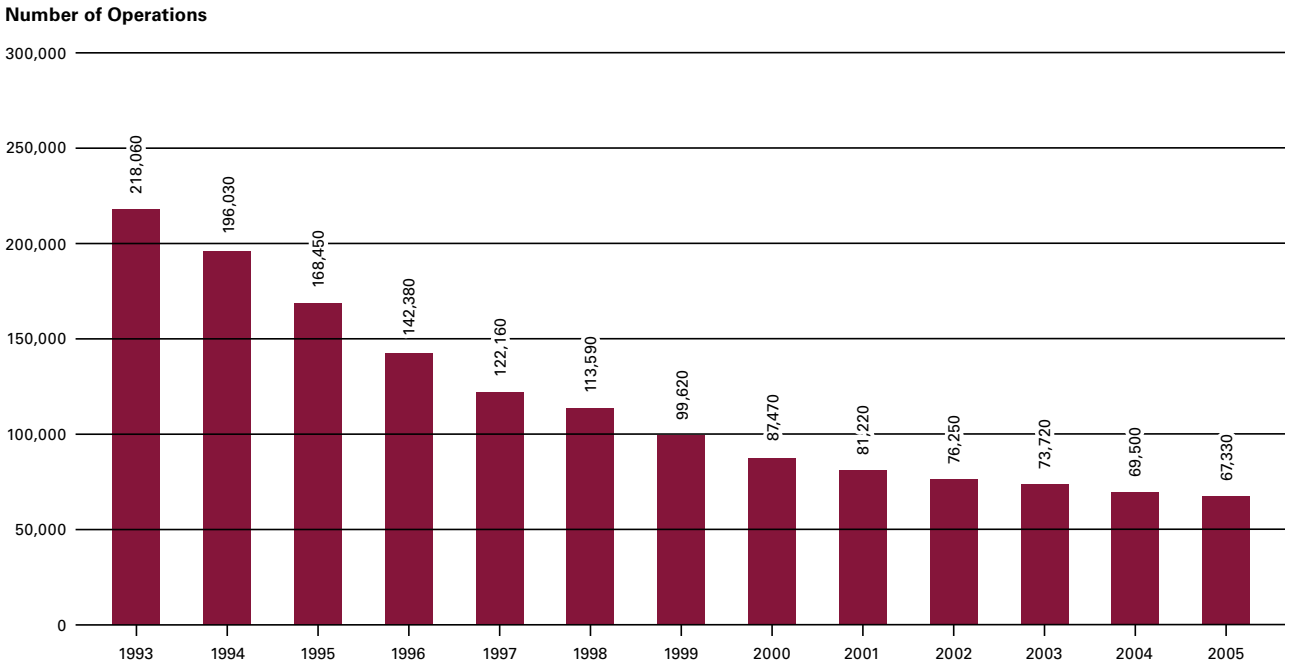


FIGURE 11: **Hogs and pigs: U.S. number of operations, 1993–2005.**



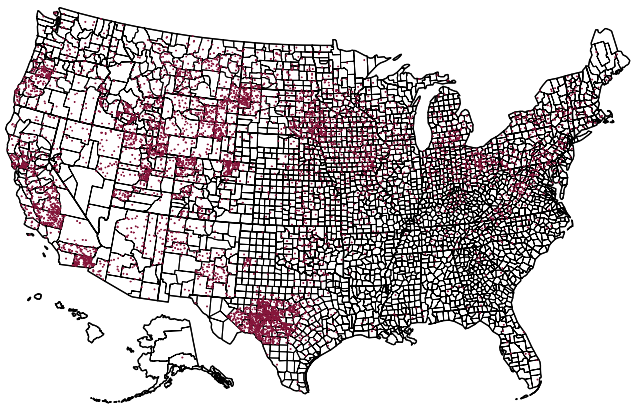
Sheep and Goats

The U.S. sheep industry is located primarily in the Western and Central States (map 11). Typically, the Western States are characterized by large range flocks, whereas those in the Central and Eastern States are mostly small, fenced flocks.

The number of sheep has declined steadily since the late 1980s with the exception of a brief peak in inventory in 1990; however, there was a small increase on January 1, 2005, and a 2-percent increase on January 1, 2006 (fig. 12).

The number of operations with sheep since the late 1980s has declined gradually, although the total has remained steady in the last 5 years (fig. 13a).

MAP 11. **Sheep and Lambs—Inventory: 2002**
United States Total: 6,341,799



1 Dot = 1,000 Sheep and Lambs

FIGURE 12: **Sheep and lambs: U.S. inventory on January 1, 1988–2006.**

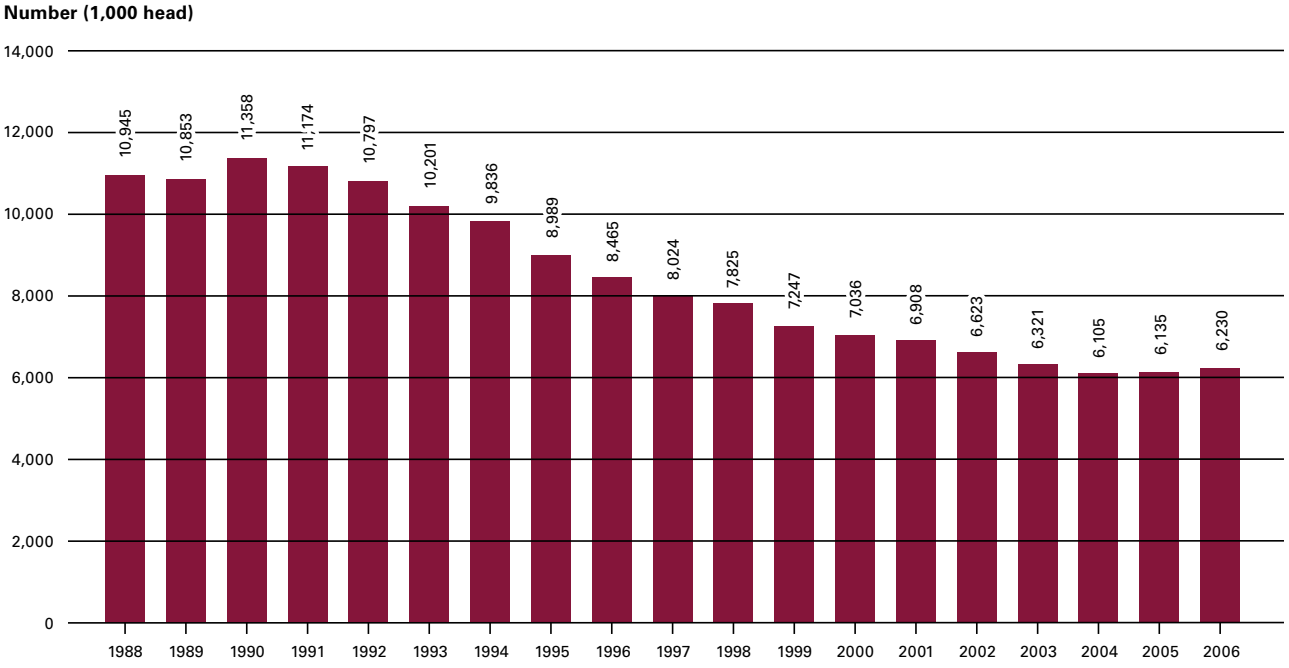
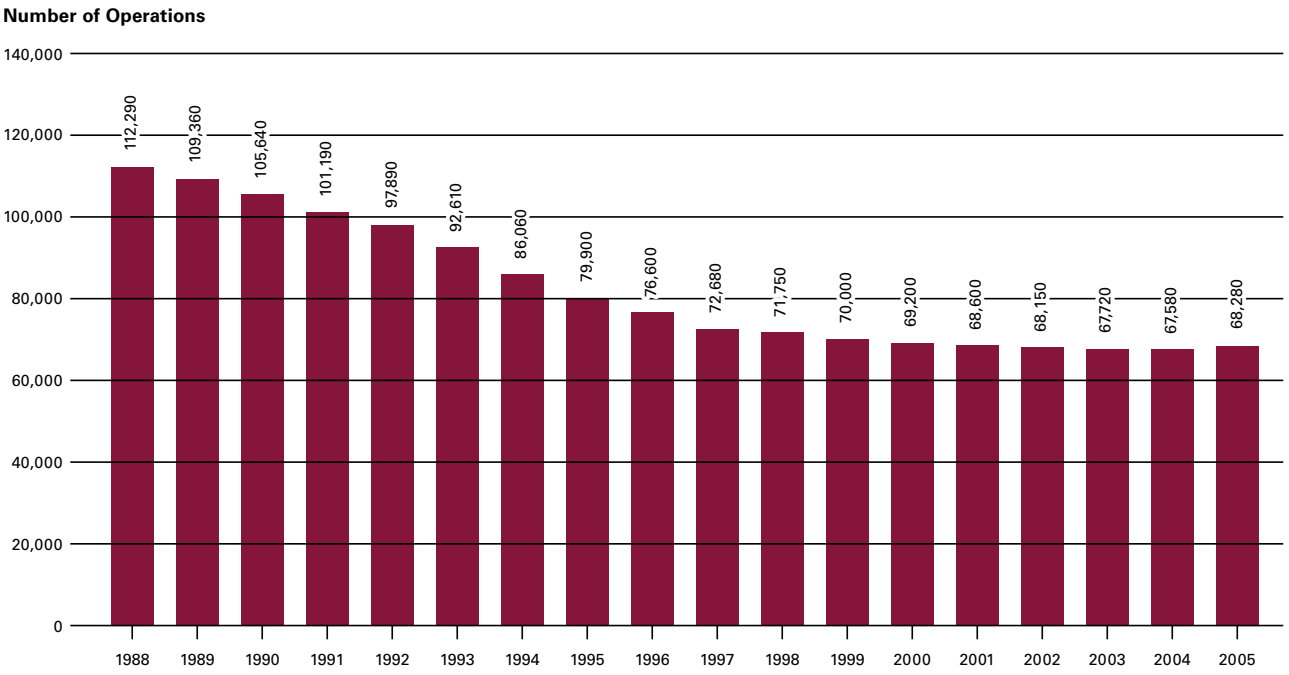


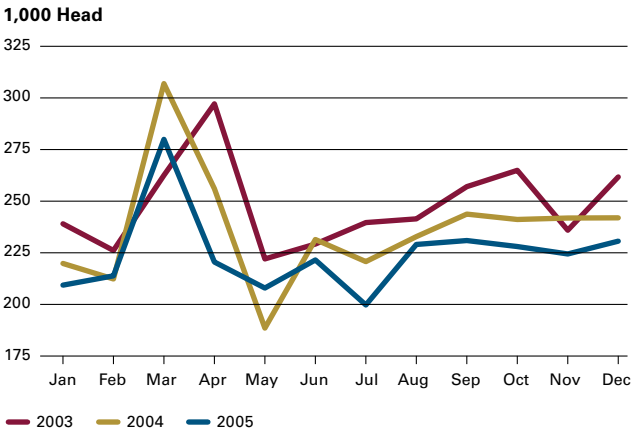
FIGURE 13A: **Sheep and lambs: U.S. number of operations, 1988–2005.**



The January 1, 2006, total inventory of U.S. sheep and lambs was 6.2 million head. Almost a third of these sheep (28.7 percent) are located on a large number of small operations; 90.8 percent of the 68,280 total operations had fewer than 100 head of sheep and lambs (table A1.8 in appendix 1). Commercial sheep and lamb slaughter totaled 2.70 million head in 2005. Slaughter typically peaks in March or April (fig. 13b).

There were 2.83 million goats in the United States on January 1, 2006, which represents a 4-percent increase over the 2005 population. Texas accounted for 46.7 percent of the total. The number of Angora and milk goats was nearly identical (278,000 and 288,000, respectively). Meat and other goats totaled 2.26 million head, which was up 5 percent from 2005.

FIGURE 13B: **Sheep: U.S. commercial slaughter, by month, 2003–05.**



Poultry Industries

Map 12 shows the economic importance of the poultry industries to the Eastern States—especially the Southeastern States. Note that the value of poultry and eggs is a high percentage of the total value of agricultural products sold in these States. The broiler segment of the poultry industries dominates other segments—eggs, turkeys, and chickens (excluding broilers)—in terms of value of production. Broilers account for nearly three-fourths the value of production (fig. 14). The quantity of production for each segment has increased rapidly over the past 50 years (figs. 15a–c).

MAP 12. **Value of Poultry and Eggs as Percent of Total Market Value of Agricultural Products Sold: 2002**

United States: 11.9 Percent

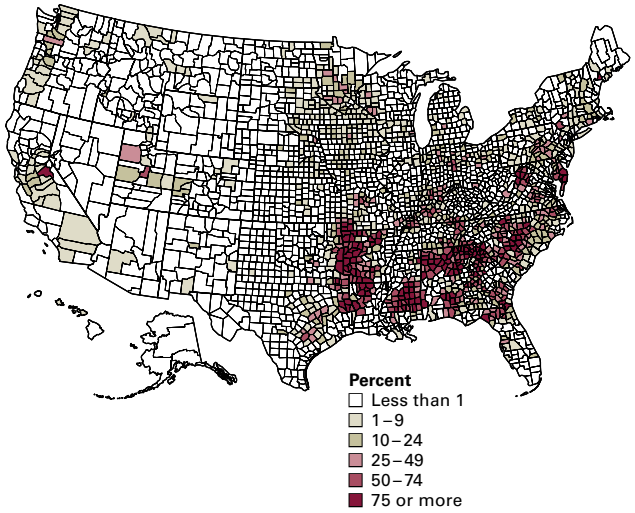


FIGURE 14: **Value of production: Broilers, eggs, turkeys, chickens, and total, United States, 1994–2005.**

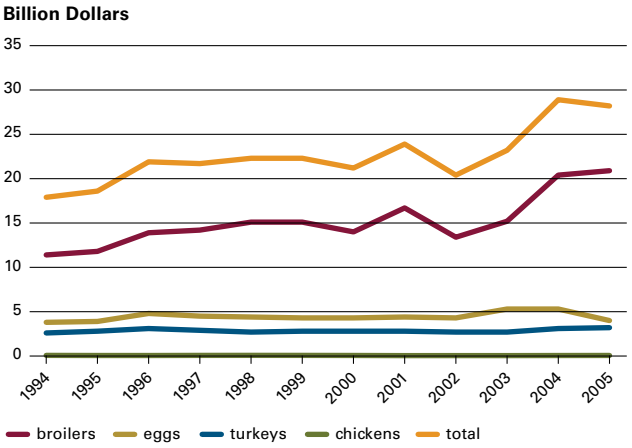


FIGURE 15B: **U.S. egg production, 1943–2005.**

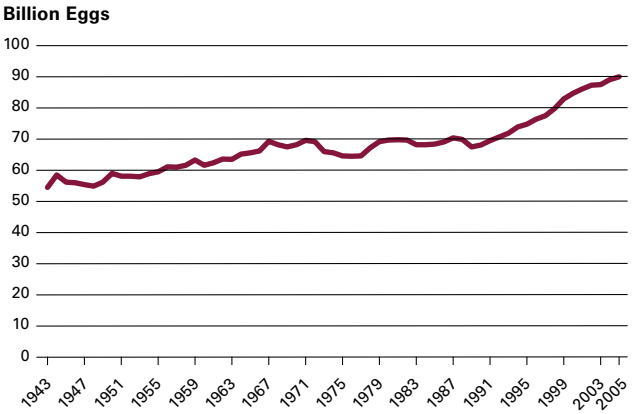


FIGURE 15A: **U.S. broiler production, 1953–2005.**

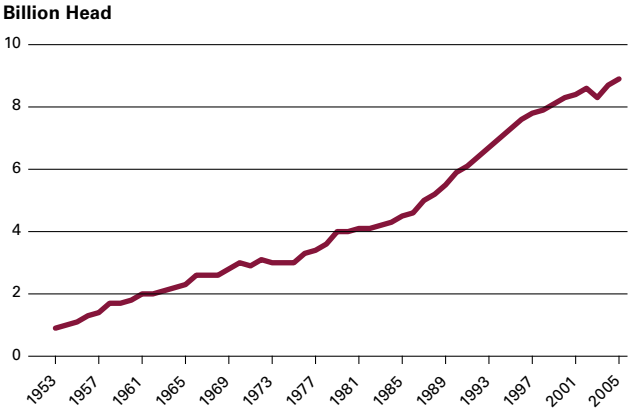
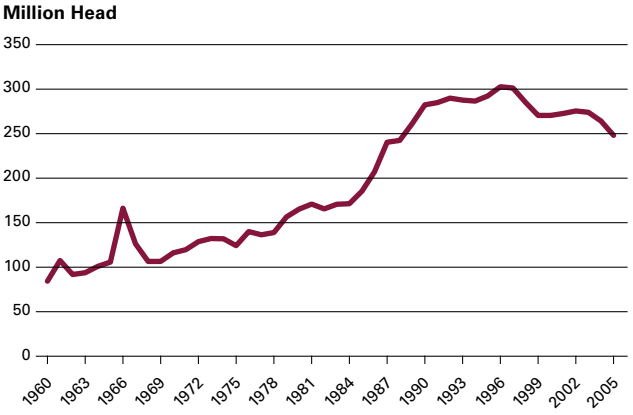


FIGURE 15C: **U.S. turkey production, 1960–2005.**



Broiler production is concentrated heavily in the Nation's Southeastern States (map 13), whereas layers are dispersed more widely over the Central and Eastern States (map 14).

Turkey production is concentrated in the eastern half of the United States (map 15). Minnesota and North Carolina accounted for about one-third of the total number of turkeys raised in 2005.

The broiler and layer industries are characterized by a relatively small number of large companies. USDA does not provide annual estimates of the number of companies or production sites. The broiler value of production was 74 percent of the $28.2 billion poultry industries production in 2005. Egg production accounted 14.3 percent of the total value of production (table A1.9 in appendix 1).

Hatchery statistics for 2005 include 9.48 billion broiler-type chickens hatched, 437 million egg-type chicks hatched, and 276 million poults hatched in turkey hatcheries. The capacity of chicken hatcheries on January 1, 2006, was 888 million eggs, and the capacity of turkey hatcheries was 39 million eggs.

More than 99 percent of total U.S. poultry slaughter for the major species is done in federally inspected slaughter plants. Slaughter of young chickens[1] accounted for 85.7 percent of the total live weight of poultry slaughtered in 2005 (fig. 16).

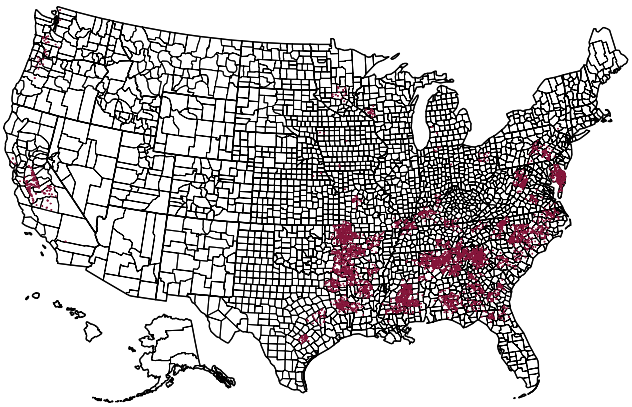
The average live weight of young chickens slaughtered has steadily increased over the previous decade (fig. 17).

In 2005, 319 plants killed poultry under Federal inspection. Young chickens were killed in 220 plants in 35 States, and young turkeys were slaughtered in 42 plants in 24 States.

[1] Young chickens are commercially grown broilers, fryers, and other young, immature birds (e.g., roasters and capons).

MAP 13. **Number of Broilers and Other Meat-Type Chickens Sold: 2002**

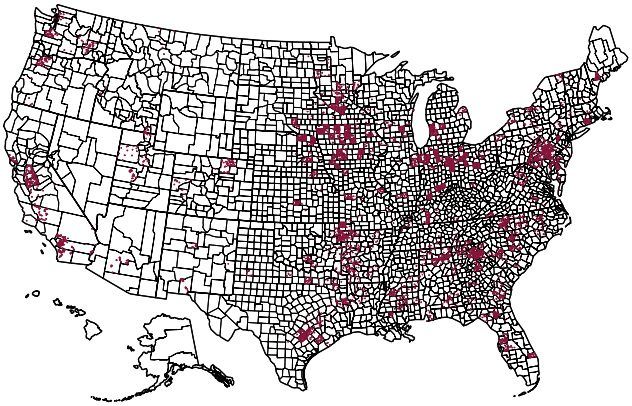
United States Total: 8,500,313,357



1 Dot = 2,000,000 Broilers

MAP 14. **Layers 20 Weeks Old and Older—Inventory: 2002**

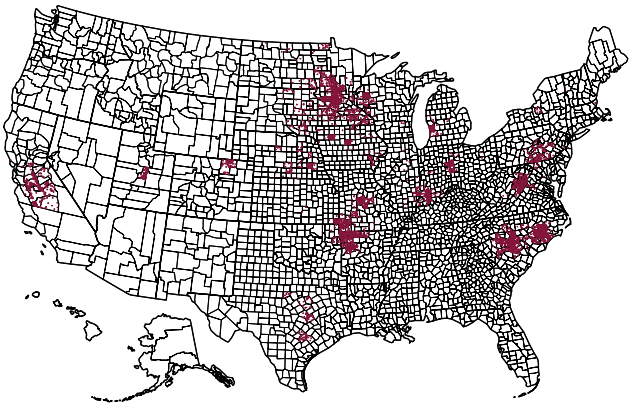
United States Total: 334,435,155



1 Dot = 60,000 Layers 20 Weeks Old and Older

MAP 15. **Number of Turkeys Sold: 2002**

United States Total: 283,247,649



1 Dot = 60,000 Turkeys

FIGURE 16: **Poultry: Total live weight slaughtered in 2005, in percentage, by type of poultry.**

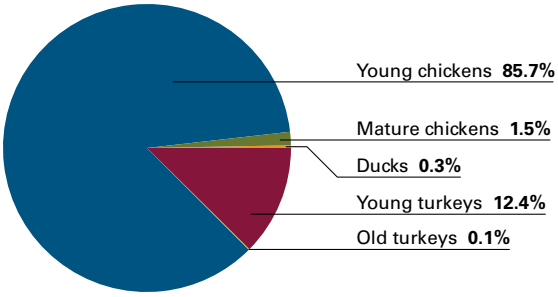
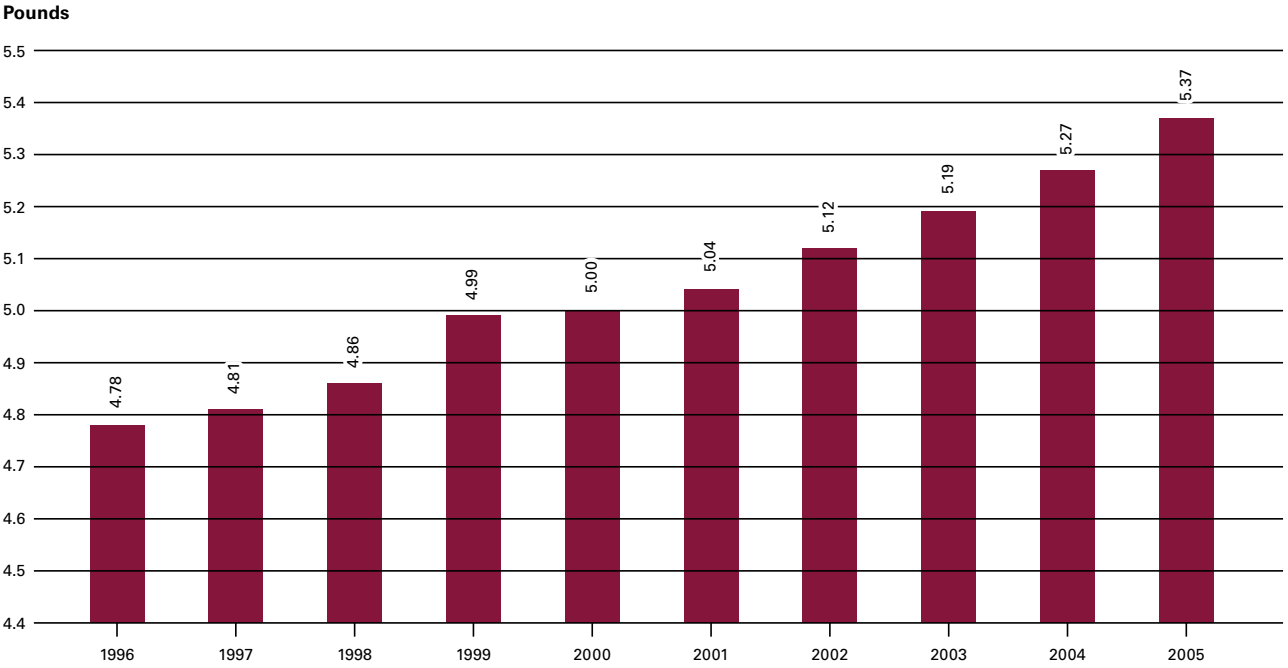


FIGURE 17: **Young chickens: Average slaughter live weight, in pounds, 1996–2005.**



Equine Industry

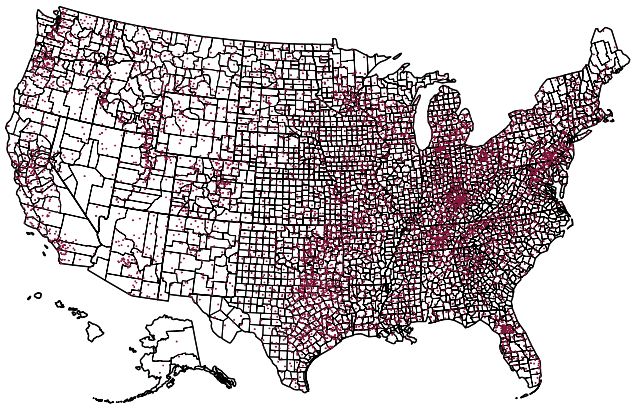
Statistics on the demographics of the U.S. equine industry are sparse. USDA does not have an equine estimation program.

The 2002 Census of Agriculture showed 3.64 million horses and ponies reported from 542,223 farms. Map 16 illustrates the broad and even distribution of horses and ponies across the United States. The 2002 Census also reported 105,358 mules, burros, and donkeys located on 29,936 farms.

USDA published equine inventories located on all places (farms and nonfarms) for January 1, 1998, at 5.25 million head, and January 1, 1999, inventories of 5.32 million head (table A1.10 in appendix 1). In addition, 39.1 percent of the January 1, 1998, total was estimated to be on nonfarm locations. The estimated value of sales was $1.64 billion for 1997 and $1.75 billion for 1998.

USDA publishes no estimates for the number of operations with all types of equids, and no information by size of equid operation is published for the United States.

MAP 16. **Horses and Ponies—Inventory: 2002**
United States Total: 3,644,278



1 Dot = 500 Horses and Ponies

Fish and Other Aquaculture Products

The 2002 Census of Agriculture estimated the value of fish and other aquaculture products sold at about $1.1 billion. Combined catfish and trout sold accounted for 78.4 percent of the total, by weight. Catfish production was concentrated (96.3 percent) in four Southern States: Alabama, Arkansas, Louisiana, and Mississippi. Mississippi accounted for 53.8 percent of total pounds of catfish sold. The total value of catfish sales for 2005 was $482.1 million, which was up less than 1 percent over the previous year (table A1.11 in appendix 1). Food-size catfish accounted for 93.3 percent of total sales.

Trout production was dispersed more widely across the United States. Idaho accounted for 51.2 percent of total value of fish sold, followed by North Carolina at 9.5 percent and California at 8.8 percent. The total value of all trout sales, both fish and eggs, was $74.2 million in 2005—an increase of 4 percent from 2004.

Honey Production

Honey production in 2005 from producers with five or more colonies totaled 175 million pounds, which represents a 5- percent decrease since 2004 (table A1.12 in appendix 1). This decrease, combined with a 15-percent drop in honey prices, resulted in a 2005 value of production of $157.8 million, reflecting a 20-percent decline from the previous year. The distribution of honey production is rather widespread across the United States, although North Dakota and California accounted for 19.3 and 17.2 percent of the total production, respectively.

Miscellaneous

The 2002 Census of Agriculture reported several miscellaneous livestock and poultry commodities, which are shown in table A1.13 in appendix 1.

Number of Livestock Slaughter Plants in the United States

On January 1, 2006, there were 806 federally inspected U.S. slaughter plants (down from 826 plants on January 1, 2005). Federally inspected plants are those that transport meat interstate and must employ Federal inspectors to ensure compliance with USDA standards. Additional plants considered federally inspected are Talmedge–Aiken plants. Although USDA is responsible for inspection in these plants, actual Federal inspection is carried out by State employees. During 2005, 657 plants slaughtered cattle (table A1.14 in appendix 1), and 13 of these plants produced almost 54 percent of the total cattle slaughtered. Eleven of the 227 plants that slaughtered calves accounted for 79 percent of the total, and 4 of the 496 plants that slaughtered sheep or lambs in 2005 produced 67 percent of the total. In 2005, 371 plants slaughtered goats. Hogs were slaughtered at 630 plants, 13 of which accounted for slightly over 58 percent of the total. Iowa, Kansas, Nebraska, and Texas accounted for almost 53 percent of U.S. commercial red-meat production in 2005. Commercial red-meat production by month typically reaches a low point in February (fig. 18). Commercial beef and pork production in 2005 dominated (54.1 and 45.2 percent, respectively), as shown in figure 19.

There were 2,087 State-inspected or custom-exempt slaughter plants in the United States on January 1, 2006, compared with 2,116 plants on January 1, 2005. State-inspected plants sell and transport exclusively intrastate. State inspectors ensure compliance with individual State standards as well as with Federal meat and poultry inspection statutes. Custom-exempt plants do not sell meat but operate on a custom slaughter basis only. The animals and meat are not federally inspected, but the facilities must meet local health requirements.

FIGURE 18: **U.S. commercial red meat production, by month, 2003–05.**

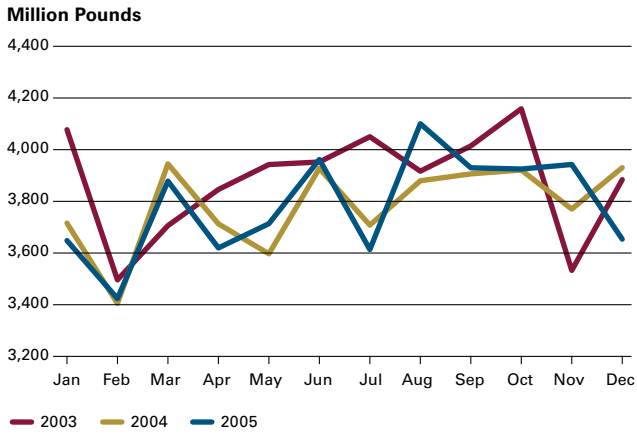
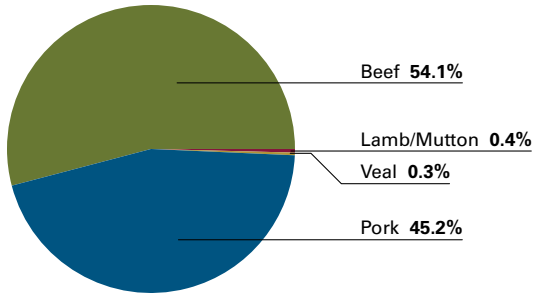


FIGURE 19: **U.S. commercial red meat production, by percentage, 2005.**



Use of Technology in Agricultural Industries

The ability of the Nation's producers to access information electronically could contribute to more rapid control of disease outbreaks. Since 1997, NASS has statistically measured farm computer usage every other year.

In 2005, 57 percent of U.S. livestock farms had access to a computer, up from 36 percent in 1997 (fig. 20). At 59 percent, dairy farms had a slightly higher rate of computer access than beef farms (52 percent) in 2005. For both beef and dairy farms, large farms ($250,000 and over) had a higher percentage of computer access than small farms ($1,000–249,999). In 2005, 72 and 80 percent of large beef and dairy farms, respectively, had computer access, compared with 51 and 50 percent of small beef and dairy farms, respectively.

Less than one-third of all livestock farms (29 percent) used computers for their farm business in 2005, but a large difference in computer usage between small farms and large farms was observed. On only 27 percent of small livestock farms were computers used for farm business, whereas 64 percent of large farms used them.

The percentage of livestock farms with Internet access increased from 12 percent in 1997 to 50 percent in 2005 (fig. 21). Just under half of dairy farms (48 percent) had Internet access in 2005, but beef farms had a slightly lower rate at 44 percent. Again, large farms had a consistently higher rate of Internet access than small farms.

FIGURE 20: **Percentage of farms with computer access, by production type, 1997–2005.**

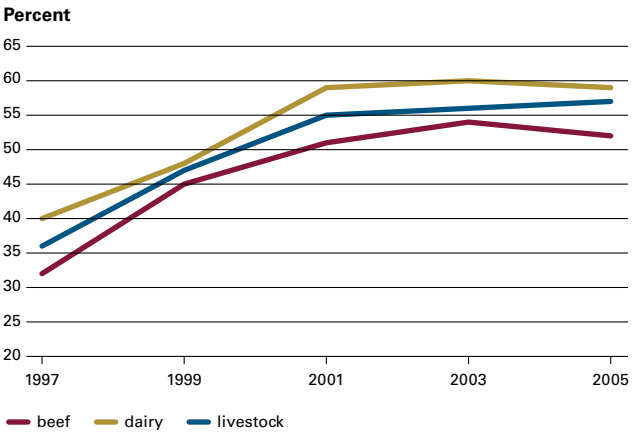


FIGURE 21: **Percentage of farms with Internet access, by production type, 1997–2005.**